

MACV J2

LOGISTIC FACT BOOK

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***Army Declass/Release Instructions On File* Declassification/Release Instructions on File**

WORKING PAPER
FIVE UNDER CONTR

INTRODUCTION

The purpose of this fact book is to provide reference data relating to VC/NVA logistic requirements. The information contained in this book was compiled from documents, interrogation reports, FM 101-10, DIA Logistic Briefing, 28 March 1966, and published intelligence documents.

All classes of supplies and type enemy units are referenced except Class III (Fuels and Lubricants). Class III requirements for in-country enemy forces are negligible. The small amount of Class III required is normally procured from in-country sources.

Class II and IV supplies and equipment relate primarily to clothing, equipment, and weapons. There is not enough information available to determine the expenditure rate of other Class II and IV (medical, signal, and engineer) supplies. A factor of .5 lbs per man, per day consumption rate for Class II and IV supplies (except weapons) is used for NVA units. A factor of .1 lbs per man, per day consumption rate for Class II and IV supplies (except weapons) is used for VC units. These factors are based on the DIA Logistic Briefing.

Levels of combat are used primarily as a logistic measure. Information currently available is insufficient to establish with any degree of certainty, the level of combat in which the enemy is currently engaged. It is estimated that the present level of combat is 1 day in 30. The fact book includes requirements for 1 day in 30, 2 days in 30 (1 in 15), and 3 days in 30 (1 day in 10).

Studies are in progress to provide a comprehensive and detailed plan of enemy logistic requirements. It is expected that these studies will provide data on classes of supplies, expenditure rates, and logistic organization which is not available in this fact book.

Computations include an accuracy to 2 and 3 decimal places. This merely reflects an attempt at arithmetical accuracy and should not necessarily be construed as an accuracy in actual expenditures.

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Definitions	1
Class I (Rations)	4
Class II and IV (Supplies and Equipment)	6
NVA	7
VC	11
Weight of Items	15
Class V (Ammo) and Class II (Weapons)	16
NVA Regimental Battalion	17
NVA Mortar Battalion	18
NVA Recoilless Rifle Battalion	19
NVA AAA Battalion	20
VC Main Force Battalion (w/old family of wpns)	21
VC Main Force Battalion (w/new family of wpns)	22
VC Mortar Battalion- 82mm	23
VC Recoilless Rifle Battalion	24
VC AAA Battalion	25
VC Local Force Battalion	26
Sapper Battalion	27
Local Force Company- 100 man size	28
Weapons Replacement and Ammunition Expenditure	29
NVA Battalion, NVA Mortar Battalion	30
NVA Recoilless Rifle Battalion, NVA AAA Battalion	31
VC Main Force Battalion, VC Mortar Battalion	32

VC Recoilless Rifle Battalion, VC AAA Battalion	32
Local Force Battalion, Sapper Battalion	34
Local Force Company- 100 man slice	35
NVA Division Equivalent	36
VC Division Equivalent	37
Requirements by Class of Supply and Type Units	38
NVA Division	39
NVA Regiment	39
NVA Battalion	39
NVA Mortar Battalion	40
NVA Recoilless Rifle Battalion	40
NVA AAA Battalion	40
VC Division	41
VC Main Force Infantry Regiment	41
VC Main Force Infantry Battalion	41
VC Mortar Battalion	42
VC Recoilless Rifle Battalion	42
VC AAA Battalion	42
VC Local Force Battalion	43
Sapper Battalion	43
Irregular and Local Force- 100 man slice	43
Carriers- Characteristics	44
Enemy Trucks in Southern Laos	45
Characteristics- Vehicle Summary	48
Porter Requirements (Methodology)	49
Porter Capacities- Planning Figures	50

Carrier speed of movement	51
Carrying capacities	52
Methods of packaging and transporting supplies	53
Bibliography	54

DEFINITIONS

Level of Combat

The intensity of combat measured in terms of supply expenditures by class for purposes of computing enemy logistic requirements.

1 days combat

Expenditure by class of supplies as follows:

Class I - Combat ration

Class II & IV - Combat requirement (less weapons)

Class V - $\frac{1}{2}$ basic load

Weapons - FWT factor.

1 days combat in 30

Expenditure of supplies as follows:

Class I - 1 days combat ration, 29 days non-combat ration.

Class II and IV - 1 days combat requirement, 29 days non-combat requirement.

Class V - $\frac{1}{2}$ basic load.

Weapons - 5% FWT

2 days combat in 30
(1 in 15)

Expenditure of supplies as follows:

Class I - 2 days combat ration, 28 days noncombat rations.

Class II and IV - 2 days combat requirement, 28 days non-combat requirement.

Class V - 1 basic load

Weapons - 6% FWT

3 days combat in 30
(1 day)

Expenditure of supplies as Follows:

Class I - 3 days combat ration, 27 days non-combat ration.

Class II and IV - 3 days combat requirement, 27 days non-combat requirement.

Class V - 1/2 basic load

Weapons - 75 PWT

Basic load

Refers to Class V and that amount of ammunition stockpiled within the using unit for each weapon assigned to the unit.

Class I - Rations

including combat, non-combat issue and supplemental foods.

*Class II

Supplies and equipment normally issued to the individual including weapons. Also may include certain organizational items.

Class III

Fuels and lubricants for all purposes except aircraft.

*Class IV

Normally includes special materials and items of equipment as well as additional items over and above individual issue

Enemy logistic classification

The enemy probably distinguishes his supplies by the following breakdown:

Rations: (Class I)

Supplies and equipment: (Class II & IV)

Weapons and ammunition: (Class V, Class II & IV)

POL: (Class III)

Daily supply rate

The average daily short tons of all classes of supply required to maintain a specified level of combat

Class I and IV - These classes of supplies are normally listed together since in most cases it is difficult to separate Class II and Class IV issue.

Division equivalent

The equivalent in type units for
Class V and weapons requirements

CLASS I
(Rations)

CLASS II & IV
(Supply & Equipment)

NVA SUPPLIES AND EQUIPMENT:

1. Non-Combat Requirement - 0.5 #/man/day. *
2. Combat Requirement - 0.5 #/man/day (additional) **
3. Requirements:

a. <u>1 day in 30:</u>	Combat	1 x 1.0 =	1.0
	Other	29 x 0.5 =	<u>14.5</u>
			15.5

0.5167 #/man/day

b. <u>2 days in 30:</u>	Combat	2 x 1.0 =	2.0
	Other	28 x 0.5 =	<u>14.0</u>
			16.0

0.533 #/man/day

c. <u>3 days in 30:</u>	Combat	3 x 1.0 =	3.0
	Other	27 x 0.5 =	<u>13.5</u>
			16.5

0.55 #/man/day

* # = lbs

.5 #/man/day is based on DIA Logistic Study, 28 March 66.

** It is estimated that for each day in combat Class II and IV requirements are doubled.

Most frequently carried items by the NVA soldier

Uniform, khaki 1 or 2

Pajamas, black 1 or 2

Underwear 2 to 4 sets

cap, cotton

Sandals, rubber 1 pr

Straps, rubber 2

cotton sweater

Nylon tent

Nylon poncho

Belt leather

Rice Belt 2

Hammock

Mosquito net

Rucksack bag 1

Canteen

canteen cover

bowl, metal

Spoon 1

Web belt 1

Canvas pack

Rice bag

Ammo pouch

Medical kit

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Items of equipment sometimes issued to the NVA soldier

Towel

Socks

Knife

Shovel

Blanket

Protective mask

Flashlight

Batteries

Cartridge belt

Boots

Jacket

Shoes

Shorts

Rubber boots

Field coat

Fatigues

Hoe

Lighter

Cooking pan

Salt bag

Kettle

Machete

Document bag

NVA MEDICAL
(Personal)

<u>ITEM*</u>	<u>AMOUNT</u>	<u>PERIODIC REISSUE</u>
Vitamin B ₁ pills	30-60	as appropriate
Vitamin C pills	30-60	as appropriate
Bandages, cotton rolls	2	as appropriate
Tiger balm	1 bottle	as appropriate
Quinine pills	20-40	as appropriate
Water purification pills	30-60	as appropriate
Dysentary pills	20-40	as appropriate
Malaria pills	30-60	as appropriate
Permanganate of pottassium	1 bottle	as appropriate
Head ache pills	20-40	as appropriate

* Infiltrators often receive only partial amounts of the above listed medical equipment.

VC SUPPLIES AND EQUIPMENT:

1. Non-Combat Requirement - 0.1 #/man/day.
2. Combat Requirement - 0.1 #/man/day (additional)
3. Requirements:

a. 1 day in 30:

Combat	1 x 0.2 =	0.2
Other	29 x 0.1 =	<u>2.9</u>
		3.1

0.1033 #/man/day

b. 2 days in 30:

Combat	2 x 0.2 =	0.4
Other	28 x 0.1 =	<u>2.8</u>
		3.2

0.1067 #/man/day

c. 3 days in 30:

Combat	3 x 0.2 =	0.6
Other	27 x 0.1 =	<u>2.7</u>
		3.3

0.1100 #/man/day

Most commonly carried VC equipment

Khaki uniform 1 or 2

Black pajamas 1 or 2

Underwear 2 sets

Sandals (rubber) 1 pr

Rice belt 1

Mosquito net 1

Nylon sheet (poncho/tent) 1

Shorts 1 pr

Hammock 1

Towel 1

Rucksack 1

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Items of equipment sometimes carried by the VC

Sandal straps 1 pr

Leather belt 1

Cotton blanket 1

Shovel 1

Duffle bag 1

Cap or Bamboo helmet 1

Field pack 1

Fatigue uniform 1

Sweater 1

Shirt 1

Canteen 1

Rice bag 1

Cartridge pouch 1

Mosquito bar 1

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VC Equipment Reissue Intervals

Khaki uniform	annual
Black pajamas	annual
Underwear	annual
Hammock	every 1 to 3 years
Sweater	annual
Mesquite net	every 1 to 3 years
Canteen	every 1 or 2 years
Sandals	annual
Plastic nylon sheet	annual
Rice belt	annual
Towel	annual

Items of equipment not listed are replaced as appropriate.

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Weights of items of equipment as determined by CMEC

1 ea uniform, khaki	1 lb 12 $\frac{1}{2}$ oz
1 ea uniform, pajama, black	14 3/4 oz
2 sets underwear	10 $\frac{1}{2}$ oz
1 ea hammock	1 lb 7 oz
1 ea sweater	9 $\frac{1}{4}$ oz
1 ea pack, field	1 lb 9 oz
1 ea net, mosquito	11 oz
1 ea canteen	9 oz
1 ea belt, pistol	7 $\frac{1}{4}$ oz
1 pr rubber tire sandals	1 lb 10 $\frac{1}{2}$ oz
1 ea cap, cloth	3 $\frac{1}{2}$ oz
2 ea sheet, plastic nylon	2 lb 2 $\frac{1}{2}$ oz
1 ea pouch, ammo	6 oz
1 pr socks	2 $\frac{1}{2}$ oz
1 ea cover, canteen	2 $\frac{1}{2}$ oz
2 ea bandolier, rice (rice belt)	9 $\frac{1}{4}$ oz
1 ea bowl, steel, eating	4 oz
1 ea spoon	1 3/4 oz
1 ea cup, canteen	4 oz
1 ea pouch, grenade	7 oz
1 ea belt, trousers	2 oz

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CLASS V
(Ammo)

Class II (Weapons)

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NVA-REGIMENTAL BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Rd	Weight Load	Total Ammo weight
K-54	24	1.9	45.6	24	0.0243	0.583	14.0
AK-47	123	9.48	1,166.0	300	0.0361	10.83	1332.0
SKS	278	8.49	2,360.2	100	0.0361	3.61	1003.0
RPD	27	15.6	421.2	600	0.0361	21.66	584.8
RP-46	9	28.7	258.3	800	0.050	40.0	360.0
RP-42	27	6.3	170.1	8	4.0	32.0	864.0
82mm	3	123.0	369.0	20	7.28	145.6	436.8
75mm	3	143.5	430.5	20	20.35	400.0	1221.0
SGM	3	30.42	91.3	900	0.050	45.0	135.0
Grenades				1400	0.79	1106.0	1106.0
TOTAL	497		5,312.2				7057.3
SHORT TONS			2.6561		(Wt) Basic Load		3.5287

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NVA-MORTAR BATTALION

Nomenclature	Number Per Battalion	Weight Per weapon	Total Weapon Weight	Basic Load	Weight Rd	Weight Load	Total Ammo Weight
X-54 Pistol	19	1.9	36.1	24	0.0243	0.583	11.1
AK-47 SMG	49	9.48	465.4	300	0.0361	10.83	530.7
SKS Rifle	82	8.49	696.1	100	0.0361	3.61	296.0
120mm Mort	6	606.0	3,636.0	20	35.05	701.0	4,206.0
82mm Mort	12	123.0	1,476.0	20	7.28	145.6	1,747.0
TOTAL	168		6,309.6				6,791.0
SHORT TONS			3.1548			(wt) Basic Load - - - - -	-3.3955

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NVA - RECOILLESS RIFLE BATTALION

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Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
K-54	19	1.9	36.1	24	0.0243	0.583	11.1
AK-47	31	9.48	293.9	300	0.0361	10.83	335.7
SKS	106	8.49	916.9	100	0.0361	3.61	389.9
75mm	18	143.5	2,583.0	20	20.35	407.0	7,326.0
TOTAL	176		3,829.9				8,062.7
SHORT TONS			1.9149	(w/t) Basic Load			4.0314

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NVA - AAA BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Pd	Weight Per Load	Total Ammo Weight
8-54 Pistol	19	1.9	36.1	24	0.0243	0.583	11.1
AK-47 SMG	40	9.48	436.1	300	0.0361	10.83	498.8
88S Rifle	72	8.49	611.3	100	0.0361	3.61	259.9
12.7mm HMG	18	347.5	6,255.0	1,000	0.309	309.0	5,562.0
TOTALS	155		7,338.5				6,331.2
GRAWT TONS			3.6693	(wt) Basic Load			3.156

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VC MAIN FORCE BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	w/new family		Atmo Weight (Total)
					Weight Per Rd	Weight Per Load	
K-54 Pistol	23	1.9	43.7	24	0.0243	0.583	13.4
AK-47 SMG	114	9.48	1,080.7	300	0.0361	10.83	1,234.6
SKS Rifle	254	8.49	2,156.5	100	0.0361	3.61	916.9
RPD AR	27	15.6	421.2	600	0.0361	21.66	584.8
RPD-2 AT	18	6.3	113.4	8	4.0	32.0	576.0
RP-46 LMG	6	28.7	172.2	800	0.050	40.0	240.0
57mm RR	3	78.3	234.9	20	5.7	114.0	342.0
60mm Mort	6	44.5	267.9	20	3.3	66.0	396.0
82mm Mort	2	123.0	246.0	20	7.28	145.6	291.2
SGM HMG	3	30.42	91.3	900	0.05	45.0	135.0
Grenade				1,000	0.79	790.0	790.0
TOTAL	456		4,826.9				5,519.9
SHORT TONS			2.4135			(Wt) Basic Load	2.7599

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VC MORTAR BATTALION - 82mm

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
82mm Mort	12	123.0	1,476.0	20	7.28	145.6	1,747.2
K-54 Pistol	15	1.9	28.5	24	0.0243	0.583	8.2
AK-47 SMG	33	9.48	312.8	300	0.0361	10.83	357.4
SKS Rifle	64	8.49	543.4	100	0.0361	5.61	231.0
TOTAL	124		2,360.7				2,344.3
K-50 SMG	33	8.3	273.9	175	0.0243	4.25	140.3
K-44 Rifle	64	8.9	569.6	100	0.05	5.0	320.0
TOTAL	124		2,348.0				2,216.2
AVS TOTAL	125		2,354.4				2,280.3
CHUCK TONS			1.1772	(Wt) Basic Load	-----	-----	1.1401

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VC - RECOILLESS RIFLES BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
75mm RR	4	143.5	574.0	20	20.35	407.0	1628.0
57mm RR	8	78.3	626.4	20	5.7	114.0	912.0
K-54 Pistol	15	1.9	28.4	24	0.0243	0.583	8.7
AK-47 SMG	21	9.48	199.1	300	0.0361	10.83	227.4
SKS Rifle	74	8.49	628.3	100	0.0361	9.41	267.1
TOTAL	122		2,056.2				3,042.2
K-50 SMG	21	8.3	174.3	175	0.0243	4.25	89.3
K-44 Rifle	74	8.9	658.6	100	0.05	5.0	370.0
TOTAL	122		2,061.7				3,008.0
AVE TOTAL	122		2,058.9				3,025.6
SHORT TONS			1.0295			(Wt) Basic Load	1.5128

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VC - AAA BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total weapon weight	Basic Load	Weight Per Rd	Weight Per Load	Total ammo weight
12.7mm HMG	12	83.5	1,002.0	1,000	0.309	309.0	3,708.0
K-54 Pistol	15	1.9	28.5	24	0.0243	0.583	8.7
AR-47 SMG	21	9.48	293.9	300	0.0361	10.83	335.7
SKS Rifle	50	8.49	424.5	100	0.0361	3.61	180.5
TOTAL	108		1,748.9				4,232.9
K-50 SMG	31	8.3	257.3	175	0.0243	4.25	131.8
K-44 Rifle	50	8.9	445.0	100	0.050	5.0	250.0
TOTAL	108		1,732.8				4,098.5
AVE TOTAL	108		1,740.8				4,165.7
SHORT TONS			0.8704			(Wt) Basic Load	-2.0829

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VC - LOCAL FORCE BATTALION

Nomenclature	Number per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
K-54 Pistol	5	1.9	9.5	24	0.0243	0.583	2.9
K-50 SMG	26	8.3	215.8	175	0.0243	4.25	110.5
K-44 Rifle	202	8.9	1,797.8	100	0.05	5.0	1,010.0
DTM AR	22	26.9	591.8	400	0.05	20.0	440.0
AT	12	6.3	75.6	8	4.0	32.0	384.0
RF-46	6	28.7	172.2	800	0.05	40.0	240.0
57mm	6	78.3	469.8	20	5.7	111.0	64.0
60mm	6	44.5	267.0	20	3.2	66.0	396.0
81mm	3	132.0	396.0	20	7.15	143.0	429.0
SC-43	6	30.42	182.5	900	3.05	45.0	270.0
Grenades				700	0.79	553.0	553.0
TOTAL	294		4,178.0				4,519.4

(wt) Basic Load - - - - - 2.0890 - - - - - 2.2597

CHART TONS

SAPPER BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Immo Weight
X-54 Pistol	7	1.9	13.3	24	0.0243	0.583	4.1
M16-47 SMG	30	9.48	284.4	300	0.0361	10.83	324.9
M16 Rifle	18	3.49	152.8	100	0.0361	3.61	63.0
M16-2 AT	3	6.3	18.9	8	4.0	32.0	96.0
7mm Rm	3	78.3	234.9	20	5.7	114.0	342.0
60mm Mort	2	44.5	132.5	20	3.3	66.0	198.0
81mm Mort	3	132.0	396.0	20	7.15	143.0	429.0
Grenade				500	0.79	395.0	395.0
TOTAL	67		1,233.9				1,854.0
SHOUL TONS			0.017	(Wt) Basic Load			-0.927

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LOCAL SUPPORT COMPANY - 100 MM SHELL

Nomenclature	Number Per Battalion	weight Per Weapon	Total weapon weight	Basic Load	weight Per Rd	weight Per Load	Total ammo weight
K-50	24	8.3	199.2	175	0.0243	4.25	102.0
7-44	40	8.9	356.0	100	0.05	5.0	200.0
DEM	8	26.9	215.2	300	0.05	15.0	120.0
HP-46	1	28.6	28.6	600	0.05	30.0	30.0
60mm	1	44.5	44.5	20	2.3	60.0	60.0
Grenade				150	0.79	117.5	117.5
TOTAL	74		843.5				626.5
SHORT TONS			0.4218				-0.3185
							(Wt) Basic Load

UNCLASSIFIED

WEAPONS REPLACEMENT AND AMMUNITION EXPENDITURE

REPLACEMENT AND EXPENDITURE:

1. NVA Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{2.6561 \times 0.05}{30} = 0.0044 \text{ T/D} *$$

$$2 \text{ days in } 30 \quad \frac{2.6561 \times 0.06}{30} = 0.0053 \text{ T/D}$$

$$3 \text{ days in } 30 \quad \frac{2.6561 \times 0.07}{30} = 0.0062 \text{ T/D}$$

b. Ammunition Expenditure/day of combat

Formula: $\frac{\text{Basic Load of Ammc}}{1/2 \text{ Basic Ld} \times 30} = \text{T/D}$ $\frac{3.5287}{2 \times 30} = 0.0588 \text{ T/D}$ for 1 day in 30

2. NVA Mortar Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{3.1548 \times 0.05}{30} = 0.0053 \text{ T/D}$$

$$2 \text{ days in } 30 \quad \frac{3.1548 \times 0.06}{30} = 0.0063 \text{ T/D}$$

$$3 \text{ days in } 30 \quad \frac{3.1548 \times 0.07}{30} = 0.0074 \text{ T/D}$$

b. Ammunition expenditure/day in combat

$$\frac{3.3955}{2 \times 30} = 0.0566 \text{ T/D}$$

* $\text{T/D} = \text{Tons Daily}$

3. NVA Recoilless Rifle Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{1.9149 \times 0.05}{30} = 0.0032^{T/D}$$

$$2 \text{ days in } 30 \quad \frac{1.9149 \times 0.06}{30} = 0.0038^{T/D}$$

$$3 \text{ days in } 30 \quad \frac{1.9149 \times 0.07}{30} = 0.0045^{T/D}$$

b. Ammunition Expenditure/day of combat

$$\frac{4.0314}{2 \times 30} = 0.0672^{T/D}$$

4. NVA AAA Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{3.6693 \times 0.05}{30} = 0.0061^{T/D}$$

$$2 \text{ days in } 30 \quad \frac{3.6693 \times 0.06}{30} = 0.0073^{T/D}$$

$$3 \text{ days in } 30 \quad \frac{3.6693 \times 0.07}{30} = 0.0086^{T/D}$$

b. Ammunition expenditure/day of combat

$$\frac{3.1656}{2 \times 30} = 0.0528^{T/D}$$

5. VC Main Force Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{2.4866 \times 0.05}{30} = \underline{0.0041 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{2.4866 \times 0.06}{30} = \underline{0.0050 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{2.4866 \times 0.07}{30} = \underline{0.0058 \text{ T/D}}$$

b. Ammunition Expenditure/day of combat

$$\frac{2.6482}{2 \times 30} = \underline{0.0441 \text{ T/D}}$$

6. VC Mortar Battalion:

a. Replacement

$$1 \text{ day in } 30 \quad \frac{1.1772 \times 0.05}{30} = \underline{0.0020 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{1.1772 \times 0.06}{30} = \underline{0.0024 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{1.1772 \times 0.07}{30} = \underline{0.0027 \text{ T/D}}$$

b. Ammunition Expenditure/day of combat

$$\frac{1.1401}{2 \times 30} = \underline{0.0190 \text{ T/D}}$$

7. VC Recoilless Rifle Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{1.0295 \times 0.05}{30} = \underline{0.0017 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{1.0295 \times 0.06}{30} = \underline{0.0021 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{1.0295 \times 0.07}{30} = \underline{0.0024 \text{ T/D}}$$

b. Ammunition Expenditure/day of combat

$$\frac{1.5128}{2 \times 30} = \underline{0.0252 \text{ T/D}}$$

8. VC AAA Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{0.8704 \times 0.05}{30} = \underline{0.0015 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{0.8704 \times 0.06}{30} = \underline{0.0017 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{0.8704 \times 0.07}{30} = \underline{0.0020 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{2.0829}{2 \times 30} = \underline{0.0347 \text{ T/D}}$$

9. VC Local Force Battalion:

a. Replacement:

1 day in 30

$$\frac{2.0890 \times 0.05}{30} = \underline{0.0035 \text{ T/D}}$$

2 days in 30

$$\frac{2.0890 \times 0.06}{30} = \underline{0.0042 \text{ T/D}}$$

3 days in 30

$$\frac{2.0890 \times 0.07}{30} = \underline{0.0049 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{2.2597}{2 \times 30} = \underline{0.0376 \text{ T/D}}$$

10. Sapper Battalion:

a. Replacement:

1 day in 30

$$\frac{0.617 \times 0.05}{30} = \underline{0.0010 \text{ T/D}}$$

2 days in 30

$$\frac{0.617 \times 0.06}{30} = \underline{0.0012 \text{ T/D}}$$

3 days in 30

$$\frac{0.617 \times 0.07}{30} = \underline{0.0014 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{0.927}{2 \times 30} = \underline{0.0155 \text{ T/D}}$$

11. 100 Man Slice - Company, Platoon, Irregular:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{0.4218 \times 0.05}{30} = \underline{0.0007 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{0.4218 \times 0.06}{30} = \underline{0.0008 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{0.4218 \times 0.07}{30} = \underline{0.0010 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{0.3183}{2 \times 30} = \underline{0.0053 \text{ T/D}}$$

NVA DIVISION

1. 12,000 men

2. Division Equivalent*

15	Inf Bn
1	Mtr Bn
1	RR Bn
1	AAA Bn

3. <u>Weight of weapons</u> (short tons)	15	x 2.5661	=	39.8415
	1	x 3.1848	=	3.1848
	1	x 1.9149	=	1.9149
	1	x 3.6693	=	3.6693
				<u>48.6105</u> tons

4. Weapons Replacement (short tons per day)

1 day in 30 - 5%

$$\frac{48.6105 \times 0.05}{30} = 0.0802 \text{ T/D}$$

2 days in 30 - 6%

$$\frac{48.6105 \times 0.06}{30} = 0.0962 \text{ T/D}$$

3 days in 30 - 7%

$$\frac{48.6105 \times 0.07}{30} = 0.1122 \text{ T/D}$$

5. Ammunition Expenditure/day of combat (short tons per day)

15	x	3.5287	=	52.9305
1	x	3.3955	=	3.3955
1	x	4.0314	=	4.0314
1	x	3.1656	=	3.1656
				<u>63.5230</u>

$$\frac{63.5230}{2 \times 30} = 1.0587 \text{ T/D}$$

* Division Equivalent = The equivalent in type units for Class V and weapons requirements

VC DIVISION

1. 10,500 men

2. Division Equivalent*

15 Inf Bn
1 Mtr Bn
1 RR Bn
1 AAA Bn

3. Weight of Weapons (short tons)

15	x	2.4866	=	37.2990
1	x	1.1772	=	1.1772
1	x	1.0295	=	1.0295
1	x	0.8704	=	0.8704
				<u>40.3761</u> short tons

4. Weapons replacement (short tons per day)

1 day in 30 - 5%

$$\frac{40.3761 \times 0.05}{30} = 0.0673 \text{ T/D}$$

2 days in 30 - 6%

$$\frac{40.3761 \times 0.06}{30} = 0.0808 \text{ T/D}$$

3 days in 30 - 7%

$$\frac{40.3761 \times 0.07}{30} = 0.0942 \text{ T/D}$$

5. Ammunition expenditure/day of combat (short tons per day)

15	x	2.6482	=	39.7230
1	x	1.1401	=	1.1401
1	x	1.5128	=	1.5128
1	x	2.0892	=	2.0829
				<u>44.4588</u>

$$\frac{44.4588}{2 \times 30} = 0.7410 \text{ T/D}$$

* Division Equivalent - the equivalent in type units for Class V and weapons requirements

REQUIREMENTS BY CLASS AND TYPE UNITS

REQUIREMENTS

NVA Division - 12,000 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	11.6880	11.7420	11.7900
Equipment	3.1000	3.2000	3.3000
Weapons	0.0842	0.1011	0.1179
Ammunition	<u>1.1015</u>	<u>2.2030</u>	<u>3.3045</u>
TOTAL (short tons daily)	15.9737	17.2461	18.5124
(Short tons less Food)	4.2857	5.5041	6.7224

NVA Infantry Battalion - 600 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.5844	0.5871	0.5895
Equipment	0.1550	0.1600	0.1650
Weapons	0.0044	0.0053	0.0062
Ammunition	<u>0.0588</u>	<u>0.1176</u>	<u>0.1764</u>
TOTAL (short tons daily)	0.8026	0.8700	0.9371
(Short tons less Food)	0.2182	0.2829	0.3476

NVA Infantry Regiment - 2900 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	2.3376	2.3484	2.3580
Equipment	0.6200	0.6400	0.6600
Weapons	0.0176	0.0212	0.0248
Ammunition	<u>0.2352</u>	<u>0.4704</u>	<u>0.7056</u>
TOTAL (short tons daily)	3.2104	3.4800	3.7484
(Short tons less food)	0.8728	1.1316	1.3904

NVA Mortar Battalion - 400 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.3896	0.3914	0.3930
Equipment	0.1033	0.1067	0.1100
Weapons	0.0053	0.0063	0.0074
Ammunition	<u>0.0566</u>	<u>0.1132</u>	<u>0.1698</u>
TOTAL(short tons daily)	0.5548	0.6176	0.6802
(Short tons less Food)	0.1652	0.2262	0.2872

NVA Recoilless Rifle Battalion - 400 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.3896	0.3914	0.3930
Equipment	0.1033	0.1067	0.1100
Weapons	0.0032	0.0038	0.0045
Ammunition	<u>0.0672</u>	<u>0.1344</u>	<u>0.2016</u>
TOTAL(short tons daily)	0.5633	0.6363	0.7091
(Short tons less Food)	0.1737	0.2449	0.3161

NVA AAA Battalion - 400 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.3896	0.3914	0.3930
Equipment	0.1033	0.1067	0.1100
Weapons	0.0061	0.0073	0.0086
Ammunition	<u>0.0528</u>	<u>0.1056</u>	<u>0.1584</u>
TOTAL(short tons daily)	0.5518	0.6110	0.6700
(Short tons less Food)	0.1622	0.2196	0.2770

VC Division - 10,500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	10.2270	10.2740	10.3160
Equipment	0.5423	0.5601	0.5775
Weapons	0.0699	0.0839	0.0979
Ammunition	<u>0.7689</u>	<u>1.5378</u>	<u>2.3067</u>
TOTAL (short tons daily)	11.6081	12.4558	13.2981
(Short tons less Food)	1.3811	2.1818	2.9821

VC Main Force Infantry Battalion - 500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.4870	0.4893	0.4913
Equipment	0.0258	0.0267	0.0275
Weapons	0.0041	0.0050	0.0058
Ammunition	<u>0.0441</u>	<u>0.0882</u>	<u>0.1323</u>
TOTAL (short tons daily)	0.5610	0.6092	0.6569
(Short tons less Food)	0.0740	0.1198	0.1656

VC Main Force Infantry Regiment - 2,500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	1.9480	1.9572	1.9652
Equipment	0.1033	0.1067	0.1100
Weapons	0.0164	0.0200	0.0232
Ammunition	<u>0.1764</u>	<u>0.3528</u>	<u>0.5292</u>
TOTAL (short tons daily)	2.2441	2.4367	2.6276
(Short tons less Food)	0.2961	0.4795	0.6624

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VC Mortar Battalion - 250 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.2435	0.2446	0.2456
Equipment	0.0129	0.0133	0.0138
Weapons	0.0020	0.0024	0.0027
Ammunition	<u>0.0190</u>	<u>0.0380</u>	<u>0.0570</u>
TOTAL(Short tons daily)	0.2774	0.2983	0.3191
(Short tons less Food)	0.0339	0.0537	0.0735

VC Recoilless Rifle Battalion - 250 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.2435	0.2446	0.2456
Equipment	0.0129	0.0133	0.0138
Weapons	0.0017	0.0021	0.0024
Ammunition	<u>0.0252</u>	<u>0.0504</u>	<u>0.0756</u>
TOTAL(Short tons daily)	0.2833	0.3104	0.3374
(Short tons less Food)	0.0398	0.0658	0.0918

VC AAA Battalion - 250 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.2435	0.2446	0.2456
Equipment	0.0129	0.0133	0.0138
Weapons	0.0015	0.0017	0.0020
Ammunition	<u>0.0347</u>	<u>0.0694</u>	<u>0.1041</u>
TOTAL(Short tons daily)	0.2926	0.3290	0.3655
(Short tons less Food)	0.0491	0.0844	0.1199

VC Local Force Battalion - 420 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.4091	0.4108	0.4127
Equipment	0.0217	0.0224	0.0231
Weapons	0.0035	0.0042	0.0049
Ammunition	<u>0.0376</u>	<u>0.0752</u>	<u>0.1108</u>
TOTAL (Short tons daily)	0.4719	0.5126	0.5515
(Short tons less Food)	0.0628	0.1018	0.1388

SAPPER Battalion - 500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.4870	0.4893	0.4913
Equipment	0.0258	0.0267	0.0275
Weapons	0.0010	0.0012	0.0014
Ammunition	<u>0.0155</u>	<u>0.0310</u>	<u>0.0465</u>
TOTAL (Short tons daily)	0.5293	0.5482	0.5667
(Short tons less Food)	0.0423	0.0589	0.0754

Irregular & Local Force - 100 Man Slice

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.0974	0.0979	0.0983
Equipment	0.0005	0.0006	0.0007
Weapons	0.0007	0.0008	0.0010
Ammunition	<u>0.0053</u>	<u>0.0106</u>	<u>0.0159</u>
TOTAL (Short tons daily)	0.1086	0.1146	0.1207
(Short tons less Food)	0.0112	0.0167	0.0224

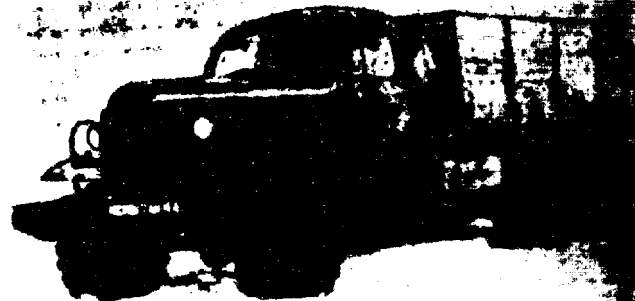
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CARRIER CHARACTERISTICS



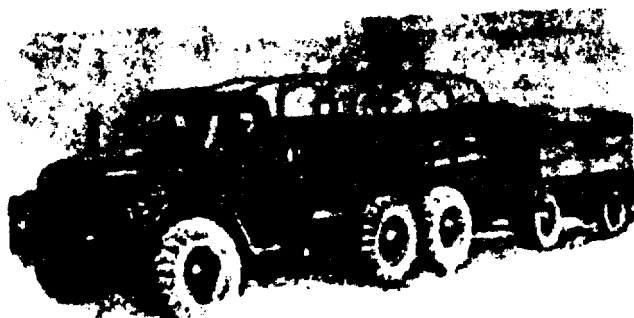
TRUCK 4X2 ZIL-157

Weight 14112 lbs
Wheelbase 178 in
Length 25 ft
Width 8 ft 7 in
Height over cab 7 ft 10 in
Engine 120 HP 4 cyl Diesel
(early models 110 HP)
Speed 40 mph
Payload: road 15435 lbs
cross country 11025 lbs
Towed load 20948 lbs
Fuel capacity 59 gal
Cruising range 261 miles



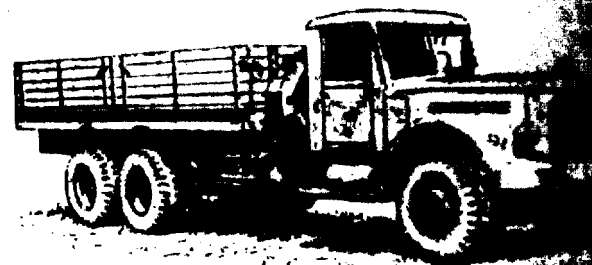
TRUCK 6X6 ZIL-157

Weight 11996 lbs
Wheelbase 168 in
Length 21 ft 10 in
Width 7 ft 7 in
Height over cab 7 ft 8 in
Engine 109 HP 6 cyl
gasoline
Speed 41 mph
Payload: road 9900 lbs
cross country 5500 lbs
Towed load 7920 lbs
Fuel capacity 48 gal
Cruising range 249 miles



TRUCK 6X6 ZIL-131

Weight fully equipped 14112 lbs
Wheelbase 178 in
Length 25 ft
Width 8 ft 7 in
Height over cab 7 ft 10 in
Engine 120 HP 4 cyl Diesel
(early models 110 HP)
Speed 40 mph
Payload: road 15435 lbs
cross country 11025 lbs



TRUCK 6X4 MAZ-210

Weight 24860 lbs
Wheelbase 153 in
Length 31 ft 8 in
Width 8 ft 8 in
Height over cab 8 ft 5 in
Engine 165 HP 6 cyl
Diesel
Speed 34 mph
Payload: road 26400 lbs
cross country 20000 lbs
Towed load 33000 lbs
Fuel capacity 119 gal
Cruising range 506 miles

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REF ID: A66124

Vehicle Summary:

<u>Type Truck</u>	<u>Read</u>	<u>Gross Country</u>	<u>Payload</u>	<u>Towed</u>	<u>Fuel</u>	<u>Capacity</u>
4x2 Ural ZIS # 355M	7700	6600		11025	gas	
6x6 Star 66	8620	5513		8820	diesel	
4x4 GAZ 63 *	4400	3300		4400	gas	51.5 gal
6x6 Ya AZ 214	11000	22000			diesel	30 gal
4x4 MAZ 502 #		8800		20948	diesel	119 gal
4x2 MAZ 200 #	15435	11025		20948	diesel	59 gal
6x6 ZIL 157	9900	5500		7920	gas	40 gal
6x6 ZIL 131	11000	6600			gas	
6x4 Ya AZ 210	26400	23000		33000	diesel	119 gal

* The truck most commonly observed in the Laotian Panhandle. It is four wheel drive, Soviet make and was designed for troops and general cargo.

Regular observation.

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Porter Requirements:

1. Factors included:

- a. X porters to carry given load.
- b. L losses.
- c. R rest period allowance.
- d. x porters to carry rations.
- e. l losses.
- f. r rest period allowance.

2. Calculations:

- a. $X = \frac{\text{Given Load}}{\text{Porter Capacity}}$.
- b. $Z = (X + L) R$ where R is 7/6 or 7/5.
- c. $x = \frac{Z \text{ times daily ration requirement.}}{\text{Porter Capacity}}$
- d. $(x + l)r = z \approx z + \frac{z \text{ times daily ration requirement.}}{\text{Porter Capacity}} *$

3. Example:

Compute the number of porters required to move 30,000 pounds of rice a distance of 81 miles over mountains using yokes and baskets.

Assumptions: A porter can carry 30 pounds, 9 miles per day by this method (see page 50).

Losses = 18 %.

A day of rest will be given to each porter.

Porters require 3 pounds of rice per day.

Calculations: $X = (30,000)/(30) = 1000$ porters

$Z = (1000 + 180) (7/6) = 1218$ porters.

$x = (1218) (3)/(30) = 122$ porters.

$z = (122 + 22) (7/6) = 168$ porters.

$\approx 168 + (168) (3)/30 = 168 + 17 = 185$ porters.

Total requirement: $1218 + 185 = 1403$ porters for 9 days.

* \approx means in the order of magnitude of (or approximately)

Planning Figures

1. Porter using a yoke and 2 baskets:

<u>Type Load</u>	<u>Poundage</u>	<u>Lowlands</u> mpd	<u>Mountains</u> mpd
Soft Goods (rations)	55	15	
Soft Goods (rations)	30		9
Hard Goods (Ammo)	44	12	
Hard Goods (Ammo)	32		7

2. Porter using a back pack:

<u>Type Load</u>	<u>Poundage</u>	<u>Lowlands</u> mpd	<u>Mountains</u> mpd
Soft Goods (rations)	86	15	
Hard Goods (Ammo)	46		7½

Speed of Movement (mph):

	<u>NVN</u>		<u>Laos</u>		<u>Cambodia</u>	
	Day	Night	Day	Night	Day	Night
Vehicles:						
Lowlands	18-24	9-12	10-16	5-8		
Mountains	9-15	5-8	5-11	3-6		
Porters and Attendants						
Lowlands	3	2	3	2	3	2
Mountains	2	1	2	1	2	1

Carrying Capacities:

<u>Carrier</u>	<u>Capacity</u>
Bicycle	500 lbs
Wagon, pushed	500 lbs
Wagon, pulled	500 lbs
Ox cart	500 lbs
Elephants	500 lbs
Water Buffalo	250 lbs

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Methods of Packaging and Transporting Supplies:

1. Rice: 220 lb bags or sacks
2. Rice: 22 to 33 lb tubes
3. Salt: same as rice
4. Ammunition: 50 lb wooden boxes
5. Fuel: 5 gal cans, 55 gal drums
6. Other foods: in sacks or bags of various sizes
7. Medicine: bottled or syrettes small enough to be hidden on a person
8. Chemicals:
 - a. Saltpeter: 220 lb units
 - b. Sulphur: 110 to 220 lb units
 - c. Mercury: 22 lb units
 - d. Acid: liter bottles

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10-1905-66
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09-2772-66
09-1516-66
09-1587-66
09-2288-66
09-2677-66
09-2678-66
09-2679-66
09-2680-66
09-2635-66
09-2637-66
11-1425-66
10-2502-66
09-2415-66
06-1399-66
03-1261-66
08-1418-66
05-0032-66
09-1493-66
09-2413-66
09-2414-66
08-1152-66
09-1758-66
10-2512-66
10-2539-66
08-1630-66
10-1872-66
02-1410-67
01-2260-67
08-1728-66
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05-0207-66 CMIC 1027

CMIC

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US 386-66/1286
US 376-66/1237

NIC

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124/66
415/66
246/66
163/66
37/66

MISCELLANEOUS

Studies of NLF of SV, file AG-406
Intel Rept 6-075-8939-66
4th MI Det, 4th Inf Div, Ind Inter Rept
No. 11-66-33
4th MI Det, 4th Inf Div, Ind Inter Rept
No. 11-66-31

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55

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(documents)

CDEC 03-1630-66
CDEC 03-0133-66
CDEC 03-1261-66
CDEC 03-1232-66
CDEC 03-0027-66
CDEC 04-0013-66
CDEC 05-1516-66
CDEC 05-1507-66
CDEC 10-2215-66
CDEC 02-0011-66
CDEC 06-1162-66
CDEC 01-0057-66
CDEC 01-1550-67
CDEC 01-2260-67
CDEC 09-1400-66
CDEC 09-1716-66
CDEC 01-1108-67
NIC 238/66 13 Jun 66
NIC 490/66
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IR 0618 15 Jun 65
IR 1027/66 23 Feb 66
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CMIC 07-0059-66 control 1133
Intel Rept 6-026-2002-66 15 Dec 66
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CLASS V AND WEAPONS DOCUMENTATION

CDEC Document Log Numbers:

01-1001-66	03-0113-66	06-1494-66
01-1002-66	03-0017-66	07-0736-66
		07-0775-66
01-1501-66	03-1114-66	07-1212-66
01-1303-66	03-0091-66	07-1215-66
01-0051-66	04-0049-66	07-1406-66
01-0060-66	04-1328-66	07-1401-66
01-0069-66	04-1222-66	08-1342-66
01-1444-66	04-1079-66	08-1773-66
01-0045-66	04-0038-66	08-0801-66
		08-1574-66
		08-1047-66
02-1780-66	04-0081-66	09-2661-66
02-1286-66	04-0060-66	09-1179-66
03-1427-66	04-0113-66	09-1249-66
03-0705-66	04-0058-66	09-1423-66
03-0083-66	04-0092-66	09-1614-66
03-1469-66	04-0075-66	09-2389-66
03-1359-66	04-1202-66	09-2669-66
03-0081-66	04-1274-66	10-2314-66
03-0076-66	05-1481-66	10-2178-66
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03-0085-66	05-1612-66	11-3099-66
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03-0066-66	05-0020-66	11-1715-66
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12-2756-66	03-2072-67	
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01-3321-67	03-2078-67	
01-3322-67	03-2085-67	
01-2192-67	03-2095-67	
01-1669-67	03-2097-67	

01-1974-67
01-1232-67
01-3015-67
01-2983-67
01-3129-67
01-3202-67
01-1913-67
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02-2221-67
02-1217-67

03-2100-67
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03-2108-67
03-2142-67
03-2219-67
CITE #1211
#1056
#0111
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